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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,015	04/05/2001	Robert Osann JR.		3460

7590 06/27/2003
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EXAMINER

NGUYEN, LINH M

ART UNIT PAPER NUMBER

2816

DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/827,015

Applicant(s)

OSANN ET AL.

Examiner

Linh M. Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003 .
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23,31-42 and 44-56 is/are pending in the application.
- 4a) Of the above claim(s) 1-23,49 and 50 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-42 and 51-56 is/are allowed.
- 6) ☒ Claim(s) 44-47 is/are rejected.
- 7) ☒ Claim(s) 48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 April 2001 and 07 April 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____ .

DETAILED ACTION

This is a reply to the Applicants' amendment submitted on April 7th, 2003. In this amendment, claims 1-23 and 49-50 are non-elected, which have been withdrawn from consideration; claims 24-30 and 43 are cancelled; claims 51-56 are newly added; and thus, claims 31-42, 44-48 and 51-56 are now presented in the instant application.

Drawings Objections

1. The drawings are still objected to because the illegible reference numerals/labels in figures 11-21 still exist.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claims Objections/ Minor Informalities

2. Claims 31, 40, 42, and 44-47 are objected to because of the following informalities:

Claim 31, line 1, delete “,”;

Claim 40, line 1, delete “,”;

Claim 42, line 2, insert --- after “array”;

Claim 44, line 2, replace “of including” with --comprising--;

Claim 45, line 1, delete “,”;

Claim 46, line 1, delete “,”; and

Claim 47, line 1, delete “,”.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 44-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Steele et al. (U.S. Patent No. 6,029,236).

With respect to claim 44, Steele et al. discloses, in Fig. 7, a programmable logic array (PLA) comprising programmable connections [SRAM, MCELL] (*see Fig. 7; col. 4, lines 44-50, and col. 5, lines 7-9*) that include (a) a storage device [SRAM] (*see col. 6, lines 8-9*) and a logic gate [19], and (b) product terms that include a gate tree (*see Fig. 10; col. 8, lines 12-20 and 23-25*); wherein (i) the storage device is one of a latch or a flip-flop (*see col. 5, lines 12-15*), and (ii) the logic gate is one of a multiplexer or an OR gate (*see Fig. 7*).

With respect to claim 45, Steele et al. discloses, in Figs. 7-8, and col. 3, lines 42-44; col. 4, lines 13-16 and 44-47; and col. 6, lines 8-11, a programmable logic array comprising programmable connections that include a pair of storage devices [Mcell1, Mcell2] and a multiplexer [18, 19].

With respect to claim 46, Steele et al. discloses, in Fig. 10 and col. 8, lines 12-20 and 23-25, that the PLA further comprises (i) product terms formed with AND trees, and (ii) sum terms formed with OR trees.

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With respect to claim 47, Steele et al. discloses, *in Fig. 8 and col. 4, lines 41-43*, a programmable logic array (PLA) including (1) an AND array that includes a first type of programmable connection, and (2) an OR array that includes a second type of programmable connection.

Allowable Subject Matter

5. Claims 31-42, and 51-56 are allowed.

6. Claim 48 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to disclose or suggest (1) a PLA depopulated to include programmable connections only where required to implement certain functionality, as called for in independent claim 31, (2) the first type of programmable connection includes a pair of storage devices and a multiplexer, and the second type of programmable connection includes only one storage device and a logic gate, as called for in claim 48, and (3) a PLA having a depopulated array that includes programmable connections only where required to implement certain functionality, as called for in independent claims 40 and 51.

Citation of relevant prior art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Shimanek (U.S. Patent No. 6,353,331) discloses a complex programmable logic device with look up table.

Prior art Mendel (U.S. Patent No. 6,184,710) discloses a PLA with enhanced interconnectivity between adjacent logic regions.

Prior art Steele (U.S. Patent No. 5,450,608) discloses a PLD having selectable output stages for initialization and resets to a specified digital state.

Remarks and conclusion

9. Upon a thorough review of the teachings of the cited prior art to Steele et al., the Examiner finds that all of the claimed limitations in claims 44-45 and 47 are disclosed therein; therefore, the indicated allowability of claims 44-45 and 47 has been withdrawn. As addressed above, in regard to claim 44, Steele et al. discloses, in Fig. 7, a programmable logic array (PLA) comprising programmable connections [SRAM, MCELL] (*see Fig. 7; col. 4, lines 44-50, and col. 5, lines 7-9*) that include (a) a storage device [SRAM] (*see col. 6, lines 8-9*) and a logic gate [19], and (b) product terms that include a gate tree (*see Fig. 10; col. 8, lines 12-20 and 23-25*); wherein (i) the storage device is one of a latch or a flip-flop (*see col. 5, lines 12-15*), and (ii) the logic gate is one of a multiplexer or an OR gate (*see Fig. 7*); in regard to claim 45, Steele et al. discloses, in Figs. 7-8, and col. 3, lines 42-44; col. 4, lines 13-16 and 44-47; and col. 6, lines 8-11, a programmable logic array comprising programmable connections that include a pair of storage devices [Mcell1, Mcell2] and a multiplexer [18, 19]; in regard to claim 46, Steele et al. discloses, in Fig. 10 and col. 8, lines 12-20 and 23-25, that the PLA further comprises (i) product terms formed with AND trees, and (ii) sum terms formed with OR trees; and in regard to claim 47, Steele et al. discloses, in Fig. 8 and col. 4, lines 41-43, a programmable logic array (PLA) including (1) an AND array that includes a first type of programmable connection, and (2) an OR array that includes a second type of programmable connection.

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10. In regard to the Applicant's argument on claim 51, at page 8, lines 4-7 of the second paragraph, the Examiner agrees with the Applicant that the cited reference Steele et al. does not depopulate its VLA by removing programmable connections nor suggest any benefit in doing so. Therefore, claims 31-42 and 51-56 are allowed.

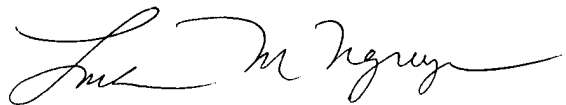
Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh M. Nguyen whose telephone number is (703) 305-0414. The examiner can normally be reached on Alternate Mon, Tuesday - Friday from 7:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P Callahan can be reached on (703) 308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-0142 for regular communications and (703) 305-0142 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Linh M. Nguyen
Examiner
Art Unit 2816



LMN
June 24, 2003